

MISCELLANEOUS NOTES

Linn. Soc. II. Bot. 1: 552. 1880 (Partim).
Niphobolus adnascens Bedd. Handb. Fern.
Brit. Ind. 325. 1883 (Partim).

Epiphytes. Rhizome slender about 2 mm thick, long creeping, compactly covered by scales. Scales pale brown, lanceolate about 4 mm long with deep brown, peltate base, edges ciliate. Stipes about 1-4 cm. sparsely stellate scaly and glabrous with age. Fronds uniform linear-lanceolate, 10-20 × 1-2 cm, hairy with adpressed stellate hairs, thinly fleshy midrib raised. Veins obscure. Sori depressed towards the upper half of the frond, leaving the tips.

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Sporangia oval, short stalked. Spores round, dark brown, irregularly grooved.

Ching (1935) reported its occurrence from Burma, Sikkim and Assam. This is the first report of its occurrence from South India.

This may be mistaken for *Pyrrosia lanceolata* (L.) Farwell. Material examined was very limited. In view of this a thorough study of these species is called for.

This is seen on tree trunks in the crevices of moist bark in dense forest but rare.

Specimens examined: KERALA: Cannanore Dt., Chandanthode, ± 840 m, 13.7.1978, V. S. Ramachandran 57676.

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REFERENCES

BAISHYA, A. K. & RAO, R. R. (1982): Fern and Fern-allies of Meghalaya State, India. Scientific Publishers, Jodhpur.

BEDDOME, R. H. (1883): Handbook to the Fern of British India, Ceylon and Malay Peninsula (repr.

ed.). 1976. New Delhi.

CHING, R. C. (1935): On the genus *Pyrrosia* Mirbel. from mainland of Asia including Japan and Formosa. *Bull. Chinese Bot. Soc.* 1: 36-72.

39. ADDITIONS TO THE ALPINE FLORA OF TUNGNATH

Tungnath area was previously explored during the years 1977-1978 and a total number of 280 species of flowering plants belonging to 157 genera and 50 families were recorded (Semwal and Gaur 1981). The area was further extensively explored and 53 species of angiosperms have been added to the previous list. The species are arranged according to Bentham and Hooker's system of classification. Specimens were identified in the Herbarium of Botanical Survey of India, Northern Circle, Dehra Dun (BSD) and the voucher specimens are deposited in the Her-

barium of Garhwal University (GUH), Srinagar with Collector's name (J. K. Semwal) and field number.

ENUMERATION RANUNCULACEAE

Aconitum violaceum Jacq. ex Stapf

Erect or decumbent herb with blue flowers. Khamdir, 4400 m. Sept. 1981 (1468).

Anemone tetrasepala Royle

Perennial herbs with white flowers. Chak-dhar, 3400 m. July 1979 (1469).

Ranunculus diffusus DC.

Perennial herb with yellow flowers. Tungnath, 3600 m. June 1979 (1419).

R. tricuspis Maxim.

Delicate herb in crevices with small yellow flowers. Khamdir, 4300 m. Sept. 1981 (1420).

Thalictrum reniforme Wall.

Tall erect herb in fruiting. Daun, 3400 m. Aug. 1979 (1472).

T. minus L.

Erect herbs with purplish flowers. Tungnath, 3600 m. Aug. 1979 (1473).

PODOPHYLLACEAE

Podophyllum hexandrum Wall. ex Royle

A rare herb with green glaucous leaves. Deodarshini, 3400 m. June, 1980 (1474).

FUMARIACEAE

Corydalis cornuta Royle

Large straggling herb with yellow flowers. Above Chopta, 3350 m. Aug. 1980 (1421).

BRASSICACEAE

Megacarpaea polyandra Benth.

Robust herb with white flowers. Kilpor, 3500 m. July, 1980 (1461).

CARYOPHYLLACEAE

Lychnis fimbriata Wall. ex Benth.

Perennial viscidly-glandular herbs with fringed purplish-white petals. Tungnath, 3600 m. Aug. 1980 (1422).

Pseudostellaria cashmiriana Schaeftlein

Small perennial herbs with bulbous roots and apetalous flowers. Tungnath, 3500 m. July 1980 (1429).

ACERACEAE

Acer caesium Wall. ex Brandis

Large deciduous trees with palmately 5-lobed leaves and winged fruits. Chakdhar, 3300 m. June 1980 (1424).

FABACEAE

Astragalus chlorostachys Lindl.

Tall erect herbs with yellow flowers. Kilpor, 3400 m. July 1980 (1425).

Vicia pallida Turez.

Trailing herbs with violet flowers. Zabrya, 3400 m. June 1979 (1451).

ROSACEAE

Potentilla microphylla D. Don var. *commutata* Hook f.

Prostrate herb with yellow flowers. Konlyar, 4200 m. Sept. 1980 (1465).

P. ornithopoda Tausch

Silky herb with yellow flowers. Tungnath, 3600 m. July 1980 (1457).

Poterium diandrum Wall.

Erect herbs in fruiting. Konlyar, 4000 m. Sept. 1980 (1464).

Pronus cornuta (Wall. ex Royle) Carr.

Large deciduous tree with white flowers arranged in racemes and purplish-black fruits. Deodarshini, 3400 m. June 1979 (2896).

Rosa macrophylla Lindl.

Prickly shrubs with pink flowers and red fruits. Tungnath, 3450 m. June 1979 (2897).

Sibbaldia purpurea (Royle) Hook. f.

Perennials with decumbent stem and pink flowers. Konlyar, 4200 m. Sept. 1980 (2898).

MISCELLANEOUS NOTES

CRASSULACEAE

Tillaea pharnaceoides Hochst. ex Steud.

Small herb with globose capsule, usually growing in moist localities. Tungnath, 3600 m. Sept. 1980 (1466).

ONAGRACEAE

Epilobium laetum Wall. ex Hausskn.

Erect herbs with angular stems and pink flowers. Tungnath, 3600 m. July 1980 (2899).

CAPRIFOLIACEAE

Lonicera obovata Royle ex Hook. f. et Thoms.

Decumbent shrubs with white flowers and blue-black berries. Tungnath, 3500 m. July 1980 (2900).

RUBIACEAE

Galium acutum Edgew.

Prostrate herb with minute whitish flowers. Specimens turn black after pressing. Konlyar, 4000 m. Aug. 1980 (1408).

ASTERACEAE

Dubyaea hispida (D. Don) DC.

Erect hispid herbs with fusiform roots and yellow heads. Khamdir, 3900 m. Sept. 1980 (1428).

Prenanthes brunoniana Wall. ex Hook. f.

Erect hispid perennial herbs with purple heads. Zabrya, 3400 m. Aug. 1980 (1429).

Ligularia sibirica (L.f.) Cass.

Tall herbs with yellow heads in terminal drooping racemes. Chakdhar, 3350 m. Aug. 1979 (1452).

Saussurea gossypiphora D. Don

Perennial wooly herbs with cylindrical heads which are purple or bluish-purple and concealed in the wool. Khamdir, 4600-5000 m. Sept. 1980 (1430).

CAMPANULACEAE

Campanula cashmiriana Royle

Herb with blue bell-shaped flowers. Tungnath, 3500 m. Aug. 1980 (1459).

Codonopsis rotundifolia Benth.

Hairy climber with purple veined flowers. Chakdhar, 3450 m. Aug. 1980 (1460).

ERICACEAE

Gaultheria nummularioides D. Don.

Decumbent undershrubs with greenish-pink corolla and dark purple fruits. Tungnath, 3500 m. July 1979 (1431).

PRIMULACEAE

Androsace lanuginosa Wall. ex Roxb.

Perennial hairy herbs on rocky slopes with pink-purple flowers. Rawanshila, 3400 m. Aug. 1979 (1432).

Primula nivalis Pall. var. *moorcroftiana* (Wall.) Pax.

Densely mealy herb. Fruiting. Khamdir, 4200 m. Sept. 1980 (1453).

P. stuartii Wall.

Robust herb with yellow flowers. Konlyar, 4000 m. Aug. 1980 (1454).

OLEACEAE

Jasminum humile L.

Deciduous glabrous shrubs with yellow flowers. Above Chopta, 3300 m. July 1979 (1433).

GENTIANACEAE

Gentiana albicalyx Burkill

Stemless herbs with leathery leaves and sessile white flowers. Tungnath, 3600 m. April 1979 (2815).

G. harwanensis Gurcharan Singh

Small erect herb on grassy slopes. Khamdir, 3800-4000 m. Sept. 1980 (1455).

G. pedicellata (D. Don) Wall. ex Griseb.

Erect or decumbent herbs with blue flowers. Rawanshila, 3400 m. April 1979 (1434).

G. tubiflora Wall. ex Griseb.

Perennial herbs with very much reduced stems and solitary terminal blue flowers upto 2.5 cm long. Konlyar, 4200 m. Sept. 1980 (1435).

Halenia elliptica D. Don

Erect glabrous herbs with light blue corolla prolonged into spurs. Deodarshini, 3400 m. Aug. 1980 (1436).

BORAGINACEAE

Mertensia racemosa (Benth. ex Royle) Clarke

Glabrous herbs in crevices with white flowers. Above Chopta, 3350 m. April 1979 (1437).

Myosotis sylvatica Hoffm.

Hairy herb with blue flowers in racemes. Kilpor, 3450 m. Aug. 1979 (1457).

SCROPHULARIACEAE

Pedicularis pectinata Wall. ex Benth.

Perennial glabrescent herbs with pink spicate flowers. Tungnath, 3600 m. Aug. 1979 (1438).

P. rhinanthoides Schr. ssp. *labellata* (Jacq.) Prain

Herb with deep purple flowers. Tungnath, 3600 m. Aug. 1979 (1462).

Scrophularia himalensis Royle ex Benth.

Erect perennial glandular herbs with greenish flowers. Zabrya, 3400 m. July 1979 (1439).

LAMIACEAE

Ajuga brachystemon Maxim.

Herbs forming basal rosette of leaves and whitish flowers. Above Chopta, 3350 m. May 1980 (1458).

POLYGONACEAE

Polygonum glaciale Hook. f.

Annual herbs with light pink flowers. Tungnath, 3600 m. Aug. 1980 (1463).

URTICACEAE

Elatostema surculosum Wt.

Sub-erect herbs, usually epiphytic. Above Chopta 3300 m. Aug. 1980 (1466).

FAGACEAE

Quercus semicarpifolia Sm.

Large evergreen trees with viviparous acorns. Above Chopta, 3350 m. July 1979 (1441).

SALICACEAE

Salix elegans Wall. ex Anderss.

Deciduous shrubs with minute seeds embedded in the white wooly hairs. Southern face of Chandrashila, 2750 mm. May 1979 (1442).

CYPERACEAE

Carex setosa Boott

Sedge in moist meadows. Tungnath, 3500 m. July 1979 (1475).

Kobresia nepalensis (Nees) Kukenthal

Sedge on rocky slopes. Tungnath, 3500 m. Aug. 1980 (1477).

POACEAE

Arundinaria spathiflora Trin

Bamboo upto 6 m high, in dense clumps on rocky slopes. Kilpor, 3450 m. June 1979 (1476).

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REFERENCE

SEMWAL, J. K. & GAUR, R. D. (1981): Alpine flora of Tungnath in Garhwal Himalaya. *J. Bombay nat. Hist. Soc.* 78: 498-512.

¹ Expired in April 1984.

40. NEW DISTRIBUTIONAL RECORDS OF SOME MANGROVE SPECIES FROM ORISSA COAST

Since the publication of Botany of Bihar and Orissa by H. H. Haines in the year 1922, many new plant species as well as new records have been discovered by various workers (Mooney 1950, Patnaik *et al.* 1956, Panigrahi *et al.* 1964, Saxena & Brahman 1978, Rao *et al.* 1967). During the studies on vegetation and flora of the Mahanadi delta in Cuttack district, Orissa state, I collected several mangrove species from Bhitara Kanika, Gahirimata, Thakurdian and False point estuarine islands of which eight species were found to be new distributional records.

MALVACEAE

Thespesia populneoides (Roxb.) Kostel. Allg. Med. Pharm. Fl. 5: 1836.

Trees 5-8 m tall with yellow flowers and partly dehiscent capsules, frequent along muddy sea shores and estuarine islands. Fruiting specimens of this tree are distinguished in the field

by separation of exocarp from the endocarp at maturity. Orissa: Hookitola island, L. K. Banerjee 9517.

MILIACEAE

Aglaia cucullata (Roxb.) Pellegrin in Not. Syst. 1: 284. 1909.

Small tree with peg-like pneumatophores and cup-shaped terminal leaflets like *Ficus krishnae*, frequent along the banks of tidal creeks towards fresh water regions, usually in association with *Brownlowia tresa* and *Heritiera fomes*.

Orissa: Bhitara Kanika, L. K. Banerjee 9537.

PAPILIONACEAE

Intsia bijuga (Colebr.) O. Kuntze, Rev. Gen. Pl. 192. 1891.

Tree with 2-3 jugate leaves and purple flowers, frequent along fresh water mangrove swamps in association with *Heritiera fomes*.

Orissa: Bhitara Kanika, L. K. Banerjee 10231.